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PATENT

Attorney Reference Number 3382-69905-01
Application Number 10/697,502

REMARKS

The Applicants respectfully request reconsideration in view of the foregoing amendments and following remarks.

Claims 34, 35, 39, 40 and 43-76 are pending, of which claims 34, 39 and 62 are independent. In the final Office action dated February 23, 2006 ("final Office action"), the Examiner rejects claims 34, 35, 39, 40 and 43-76 under various grounds.

The Applicants have amended claims 34, 39, 48, 49, 51, 58, 59, 61, 62, 71-73 and 75. The amendments to independent claims 34, 39 and 62 fall within the scope of an ongoing dialogue with the Examiner (see pages 2-3 of the final Office action). The amendments to dependent claims 48, 49, 51, 58, 59, 61, 71-73 and 75 adopt suggestions of the Examiner or are editorial in nature. These amendments should not require further consideration and/or search.

I. Claims 48, 49, 58, 59, 71 and 72 Satisfy 35 U.S.C. § 112 ¶ 1.

In the final Office action, the Examiner rejects claims 48, 58 and 71 for failing to satisfy the enablement requirement of 35 U.S.C. § 112, ¶ 1. In particular, the Examiner objects to the language "at a given fixed rate for the transmission channel" in claims 48, 58 and 71. (Final Office action, pages 3-4.) The Applicants respectfully disagree. The Application describes, as one example, a 6 MHz transmission channel that has conventional and robust portions (Application, 13:5-9 and 13:13-14:6; *see also* Application, 7:1-14), and the fall off in total bit rate shown in Figures 4 and 5 illustrates a decrease in effective information rate as robustness increases. Nonetheless, to expedite prosecution, the Applicants have removed the language "at a given fixed rate for the transmission channel" from claims 48, 58 and 71.

The Examiner also rejects claims 49, 59 and 72 for failing to satisfy the enablement requirement. In particular, the Examiner contends that Figures 4 and 5 of the application show "the total bit rate of the transmission channel to be equal to, not greater than, the sum of rates of the robust and convention channel." (Final Office action, page 4.) The Applicants respectfully disagree. The Application describes, as one example, a 6 MHz transmission channel that has conventional and robust portions (Application, 13:5-9 and 13:13-14:6; *see also* Application, 7:1-14), and the fall off in total bit rate shown in Figures 4 and 5 illustrates a decrease in effective information rate as robustness increases. Nonetheless, to expedite prosecution, the Applicants have amended claims 49, 59 and 72.

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The rejections of claims 48, 49, 58, 59, 71 and 72 under 35 U.S.C. § 112, ¶ 1 are moot in view of the foregoing amendments to these claims.

II. Claims 48, 49, 58, 59, 71 and 72 Satisfy 35 U.S.C. § 112 ¶ 2.

In the final Office action, the Examiner rejects claims 48, 49, 58, 59, 71 and 72 for failing to satisfy the definiteness requirement of 35 U.S.C. § 112, ¶ 2. The Applicants respectfully disagree. The indefiniteness rejections are moot, however, in view of the foregoing amendments to these claims.

III. Claims 34, 35, 39, 40, 43, 47-56, 60-62 and 66-76 Are Allowable Over Huang, Ribas and Naegel.

In the final Office action, the Examiner rejects claims 34, 35, 39, 40, 43, 47-56, 60-62 and 66-76 as being unpatentable over U.S. Patent Publication No. 2002/0061073 to Huang et al. ("Huang") in view of U.S. Patent Publication No. 2003/0053416 to Ribas et al. ("Ribas") and U.S. Patent No. 6,775,840 to Naegel et al. ("Naegel"). The Applicants respectfully disagree. Huang, Ribas and Naegel, taken separately or in combination, fail to teach or suggest at least one limitation of each of claims 34, 35, 39, 40, 43, 47-56, 60-62 and 66-76.

A. Dialogue in the Final Office Action.

In the final Office action, the Examiner writes:

Naegel teaches selecting a cleaner channel when the current channel becomes too noisy (see applicant's remarks). Because the new channel has less noise, data in the new channel are less susceptible to errors. Therefore "relative to data of the conventional channel (current channel), data of the robust channel (new channel) have a higher level of robustness to transmission errors." The claim limitation does not state what causes a higher level of robustness, but simply cites data is more robust to transmission errors.

(Final Office action, at 2-3.) The Applicants respectfully disagree with the Examiner's reasoning. If data have a higher level of robustness to transmission errors (as in claims 34, 39, and 62), that is a characteristic of the data as transmitted in a channel, not whether the channel is "noisy" or "clean." In any case, the Applicants have amended claims 34, 39 and 62 to state "a higher level of robustness to transmission errors due to an increase of redundancy in the data of the robust channel," which the Applicants understand to address the Examiner's concern.

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B. Naegel.

In the interest of reaching a shared understanding of the disclosure of Naegel, the Applicants make the following observations.

Naegel describes locating clean channels for upstream data carriers in a cable system. (Naegel, Abstract.) For example, bandwidth in the 5 MHz to 42 MHz range is reserved for upstream signals, and a particular cable modem is entitled to a sub-band of the bandwidth. (Naegel, 4:33-40.) When an upstream channel is selected, a spectrum analyzer at, for example, a cable head end, monitors the channel to ensure that it continues to be at an acceptable noise level. (Naegel, 9:18-40, 13:3-5, Figure 3.) If the current channel becomes too noisy, the system attempts to select another channel from among *N* candidate channels previously determined to be good channels. (Naegel, 12:34-13:27.) According to Naegel, "the noise level on all channels are random and chaotic." (Naegel, 6:17-18.)

C. Claims 34, 39 and 62.

Claim 34, as amended, recites:

selecting between conventional and robust channels, wherein relative to data of the conventional channel, data of the robust channel have a higher level of robustness to transmission errors due to an increase of redundancy in the data of the robust channel.

Claim 39, as amended, recites:

means for deciding which of conventional and robust channels to select, wherein relative to data of the conventional channel, data of the robust channel have a higher level of robustness to transmission errors due to an increase of redundancy in the data of the robust channel.

Claim 62, as amended, recites:

in the receiver, selecting between a conventional channel and a robust channel, wherein relative to data of the conventional channel, data of the robust channel have a higher level of robustness to transmissions errors due to an increase of redundancy in the data of the robust channel.

The claim language "due to an increase of redundancy in the data of the robust channel" is supported in the application as filed. (*See, e.g.*, Application, 2:4-17, 13:13-17 and 14:7-9.)

Huang, Ribas and Naegel, taken separately or in combination, fail to teach or suggest the above-cited language of claims 34, 39 and 62, respectively.

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Naegel does not teach or suggest the above-cited language of claims 34, 39 and 62, respectively. Naegel describes locating clean channels for upstream data carriers. (Naegel, Abstract.) If the current channel becomes too noisy, the Naegel system attempts to select another channel from among N candidate channels previously determined to be good channels. (Naegel, 12:34-13:27.) Selecting between N channels for use in the same way and without changing upstream data (as in Naegel) does not involve channel selection in which data of one channel have a higher level of robustness to transmission errors due to an increase of redundancy in the data of the one channel, relative to data of another channel. As such, Naegel does not teach or suggest the above-cited language of claims 34, 39 and 62, respectively. In fact, according to Naegel, "the noise level on all channels are random and chaotic." (Naegel, 6:17-18.) This further leads away from the above-cited language of claims 34, 39 and 62, respectively.

Huang also fails to teach or suggest the above-cited language of claims 34, 39 and 62, respectively. (See Office action, page 6.) Ribas describes a generalized reference decoder that operates according to rate and buffer parameters for a given bit stream (Ribas, Abstract), but fails to teach or suggest the above-cited language of claims 34, 39 and 62, respectively. The combination of Huang, Naegel and Ribas also fails to teach or suggest the above-cited language of claims 34, 39 and 62, respectively.

For at least this reason, claims 34, 39 and 62 should be allowable.

D. Claims 35, 40, 43, 47-56, 60, 61 and 66-76.

In view of the foregoing comments, the Applicants will not belabor the merits of the separate patentability of dependent claims 35, 40, 43, 47-56, 60, 61 and 66-76. Dependent claims 35, 40, 43, 47-56, 60, 61 and 66-76 should also be allowable.

IV. Claims 44-46, 57-59 and 63-65 Are Allowable Over Huang, Ribas, Naegel and Jollota.

In the final Office action, the Examiner rejects claims 44-46, 57-59 and 63-65 as being unpatentable over Huang in view of Ribas, Naegel and U.S. Patent Publication No. 2004/0142699 to Jollota et al. ("Jollota"). The Applicants respectfully disagree. Huang, Ribas, Naegel and Jollota taken separately or in combination, fail to teach or suggest at least one limitation of each of claims 44-46, 57-59 and 63-65.

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As noted in the previous section, Huang, Ribas and Naegel, taken separately or in combination, fail to teach or suggest the above-cited language of claims 34, 39 and 62, respectively. Jollota, taken separately or in combination with Huang, Ribas and Naegel, also fails to teach or suggest the above-cited language of claims 34, 39 and 62, respectively.

For at least this reason, claims 44-46, 57-59 and 63-65 should be allowable. In view of the foregoing comments, the Applicants will not belabor the merits of the separate patentability of dependent claims 44-46, 57-59 and 63-65.

V. Request for Interview.

If any issues remain, the Examiner is formally requested to contact the undersigned attorney in order to arrange a telephonic interview. It is believed that a brief discussion of the merits of the present application may expedite prosecution. Applicants submit the foregoing formal Amendment so that the Examiner may fully evaluate Applicants' position, thereby enabling the interview to be more focused. This request is being submitted under MPEP § 713.01, which indicates that an interview may be arranged in advance by a written request.


VI. Conclusion.

Claims 34, 35, 39, 40 and 43-76 in their present form are allowable. Such action is respectfully requested.

Respectfully submitted,

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